

REMARKS/ARGUMENTS

Claims 1-14 have been withdrawn from consideration and are being canceled herein.

Claims 15-20 were rejected as being indefinite under 35 U.S.C. §112. First, the Examiner requested clarification of the directions recited in claim 15. The directions have been clarified without changing the meaning or the scope of the claims. Note that the horizontal direction is defined by the fixture; and the driving device is for moving an element vertically (up-down in Fig. 1), horizontally (left-right in Fig. 1), and along the grooves (into and out of the page of Fig. 1).

Second, the Examiner questioned claim 18's accuracy in stating that contact between the polishing element and the workpiece is detected according to at least one of a magnetic field and a current of the rotary driving unit. The Examiner is simply referred to paragraphs 35-38, which presents a clear example of how the claimed technique may be implemented. No revision is needed.

Therefore, withdrawal of the §112 rejection is requested.

Claims 15, 17 and 20 were rejected as being anticipated by Fivian. Claim 16 was rejected as obvious over Fivian. Claims 18 and 19 were rejected as being obvious over Numoto et al.

Claim 15 has been amended to include the feature of (canceled) claim 17 and now recites a disk polishing element having both abrasive grains on a side face for polishing, and abrasive grains at a peripheral edge for cutting.

Fivian discloses an apparatus for cutting gear teeth in a gear wheel. The Examiner has not pointed out any polishing function or polishing side face, nor any polishing element with abrasive grains on a side edge for cutting, and none is seen. Therefore, the anticipation rejection of claims 15 and 17 (now combined) is not supported by the Fivian reference and should be withdrawn.

Claims 16 and 20 depend from claim 15 and should be allowed at least for that reason.

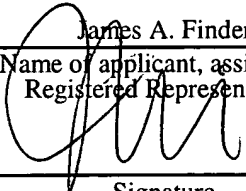
Claim 18 has been rewritten in independent form and allowance of this claim is also in order. The Examiner is invited to read paragraphs 35-38 in order to gain a better understanding of the invention of claim 18. The detector 31 determines the contact position by detecting the load on the motor 24, as a function of either a magnetic field or a current. The Examiner places

great emphasis on a Hall sensor in Numoto et al., which may be used to detect proximity between two elements (col. 9, line 59 - col. 10, line 6). But there is nothing in either the Numoto reference or the Office Action that is relevant to the actual language of claim 18, which includes "...detecting said contact position by detecting an electrical characteristic of said rotary driving unit..." Numoto does not do that and does not suggest doing that. Allowance of claim 18 is in order.

Claim 19 and new claim 21 depend from claim 18 and are allowable at least for that reason. In addition, regarding claim 19, the Hall sensor in Numoto detects proximity, not an electrical characteristic of said rotary driving unit as claimed. Therefore, claim 19 is not suggested by Numoto et al. Claim 21 is identical to claim 16 and recites that the cutting depth of the abrasive grains is 10nm or less. This feature is remarkable in the context of the parent claim 18, in that the novel sensor of claim 18, by detecting the contact position, makes it possible to control the cutting depth down to below 10nm. For this reason as well, claim 21 should be allowed.

In view of the foregoing amendments and remarks, the Examiner is requested to allow claims 15, 16 and 18-21 and pass this case to issue.

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November 1, 2005
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Respectfully submitted,



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